

RECEIVED

SEP 17 2002

TECH CENTER 1600-2900



1600

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/202,549D

TIME: 15:19:43

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\08212002\I202549D.raw

4 <110> APPLICANT: Tsichlis, Philip
5 Grimes, Leighton H
6 Zweidler-McKay, Patrick
9 <120> TITLE OF INVENTION: NUCLEIC ACID MOLECULE FOR ENHANCING GENE EXPRESSION
12 <130> FILE REFERENCE: FCCC96-11
15 <140> CURRENT APPLICATION NUMBER: US 09/202,549D
16 <141> CURRENT FILING DATE: 1999-10-12
19 <150> PRIOR APPLICATION NUMBER: PCT/US97/10486
20 <151> PRIOR FILING DATE: 1997-06-17
23 <150> PRIOR APPLICATION NUMBER: US 60/019,808
24 <151> PRIOR FILING DATE: 1996-06-17
27 <160> NUMBER OF SEQ ID NOS: 70
30 <170> SOFTWARE: PatentIn version 3.1
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 12
35 <212> TYPE: DNA
36 <213> ORGANISM: Artificial Sequence
W--> 37 <220> FEATURE:
38 <223> OTHER INFORMATION: Gfi-1 binding sequence
W--> 39 <220> FEATURE:
40 <221> NAME/KEY: misc_feature
41 <222> LOCATION: (1)..(1)
42 <223> OTHER INFORMATION: "n" is any nucleotide
W--> 44 <220> FEATURE:
45 <221> NAME/KEY: misc_feature
46 <222> LOCATION: (9)..(9)
47 <223> OTHER INFORMATION: "n" is any nucleotide
49 <400> SEQUENCE: 1
W--> 50 naaatcacng ca 12
53 <210> SEQ ID NO: 2
54 <211> LENGTH: 12
55 <212> TYPE: DNA
56 <213> ORGANISM: Artificial Sequence
58 <220> FEATURE:
59 <223> OTHER INFORMATION: Gfi-1 binding sequence
W--> 60 <220> FEATURE:
61 <221> NAME/KEY: misc_feature
62 <222> LOCATION: (9)..(9)
63 <223> OTHER INFORMATION: "n" is "t" or "a"
65 <400> SEQUENCE: 2
W--> 66 taaatcacng ca 12
69 <210> SEQ ID NO: 3
70 <211> LENGTH: 12

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/202,549D

TIME: 15:19:43

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\08212002\I202549D.raw

```

71 <212> TYPE: DNA
72 <213> ORGANISM: Artificial Sequence
74 <220> FEATURE:
75 <223> OTHER INFORMATION: An expression regulatory DNA segment
W--> 76 <220> FEATURE:
77 <221> NAME/KEY: misc_feature
78 <222> LOCATION: (1)..(1)
79 <223> OTHER INFORMATION: "n" is any nucleotide
W--> 81 <220> FEATURE:
82 <221> NAME/KEY: misc_feature
83 <222> LOCATION: (3)..(3)
84 <223> OTHER INFORMATION: "n" is any nucleotide
W--> 86 <220> FEATURE:
87 <221> NAME/KEY: misc_feature
88 <222> LOCATION: (4)..(5)
89 <223> OTHER INFORMATION: "n" is "g" "c" or "t", or is absent, or is an oligonucleotide
of
90      two or more nucleotides
W--> 92 <220> FEATURE:
93 <221> NAME/KEY: misc_feature
94 <222> LOCATION: (6)..(6)
95 <223> OTHER INFORMATION: "n" is "a" "g" or "c", or is absent, or is an oligonucleotide
of
96      two or more nucleotides
W--> 98 <220> FEATURE:
99 <221> NAME/KEY: misc_feature
100 <222> LOCATION: (9)..(9)
101 <223> OTHER INFORMATION: "n" is "a" "g" or "c", or is absent, or is an
oligonucleotide of
102      two or more nucleotides
104 <400> SEQUENCE: 3
W--> 105 nannnnnacng ca 12
108 <210> SEQ ID NO: 4
109 <211> LENGTH: 24
110 <212> TYPE: DNA
111 <213> ORGANISM: Artificial Sequence
113 <220> FEATURE:
114 <223> OTHER INFORMATION: Gfi-1 binding sequence
W--> 115 <220> FEATURE:
116 <221> NAME/KEY: misc_feature
117 <222> LOCATION: (2)..(2)
118 <223> OTHER INFORMATION: "n" is "a" or "c"
W--> 121 <220> FEATURE:
122 <221> NAME/KEY: misc_feature
123 <222> LOCATION: (7)..(7)
124 <223> OTHER INFORMATION: "n" is "inosine" or "c"
W--> 126 <220> FEATURE:
127 <221> NAME/KEY: misc_feature
128 <222> LOCATION: (15)..(15)
129 <223> OTHER INFORMATION: "n" is "a" or "t"
131 <400> SEQUENCE: 4
W--> 132 anaaaaaaaa tcacngcata tgcc 24

```

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/202,549D

TIME: 15:19:43

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\08212002\I202549D.raw

```

135 <210> SEQ ID NO: 5
136 <211> LENGTH: 33
137 <212> TYPE: DNA
138 <213> ORGANISM: Artificial Sequence
140 <220> FEATURE:
141 <223> OTHER INFORMATION: Gfi-1 binding sequence
143 <400> SEQUENCE: 5
144 accatcacca cataaatcac tgcctatcct gtg 33
147 <210> SEQ ID NO: 6
148 <211> LENGTH: 33
149 <212> TYPE: DNA
150 <213> ORGANISM: Artificial Sequence
152 <220> FEATURE:
153 <223> OTHER INFORMATION: Gfi-1 binding oligonucleotide
155 <400> SEQUENCE: 6
156 accatcacca cataaatcac tgcctatcct gtg 33
159 <210> SEQ ID NO: 7
160 <211> LENGTH: 24
161 <212> TYPE: DNA
162 <213> ORGANISM: Artificial Sequence
164 <220> FEATURE:
165 <223> OTHER INFORMATION: Gfi-1 binding oligonucleotide
167 <400> SEQUENCE: 7
168 caccacatag atcactgcct atcc 24
171 <210> SEQ ID NO: 8
172 <211> LENGTH: 24
173 <212> TYPE: DNA
174 <213> ORGANISM: Artificial Sequence
176 <220> FEATURE:
177 <223> OTHER INFORMATION: Gfi-1 binding oligonucleotide
179 <400> SEQUENCE: 8
180 caccacataa ctcaactgcct atcc 24
183 <210> SEQ ID NO: 9
184 <211> LENGTH: 24
185 <212> TYPE: DNA
186 <213> ORGANISM: Artificial Sequence
188 <220> FEATURE:
189 <223> OTHER INFORMATION: Gfi-1 binding oligonucleotide
191 <400> SEQUENCE: 9
192 caccacataa ataactgcct atcc 24
195 <210> SEQ ID NO: 10
196 <211> LENGTH: 24
197 <212> TYPE: DNA
198 <213> ORGANISM: Artificial Sequence
200 <220> FEATURE:
201 <223> OTHER INFORMATION: Gfi-1 binding oligonucleotide
203 <400> SEQUENCE: 10
204 caccacataa atcaatgcct atcc 24
207 <210> SEQ ID NO: 11

```

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/202,549D

TIME: 15:19:43

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\08212002\I202549D.raw

```

208 <211> LENGTH: 24
209 <212> TYPE: DNA
210 <213> ORGANISM: Artificial Sequence
212 <220> FEATURE:
213 <223> OTHER INFORMATION: Gfi-1 binding oligonucleotide
215 <400> SEQUENCE: 11
216 caccacataa atcacttcct atcc 24
219 <210> SEQ ID NO: 12
220 <211> LENGTH: 500
221 <212> TYPE: DNA
222 <213> ORGANISM: Artificial Sequence
224 <220> FEATURE:
225 <223> OTHER INFORMATION: Gfi-1 binding sequence
227 <400> SEQUENCE: 12
228 gccgcgctgg ctgaccgccc aacgaccccc cgggattgac gtcaataatg acgtatgttc 60
230 ccatagtaac gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa 120
232 ctgcccactt ggcagtacat caagtgtatc atatgccaa g tacgccccct attgacgtca 180
234 atgacggtaa atggcccggc tggcattatg cccagtaaat gaccttatgg gactttccta 240
236 cttggcagta catctacgta ttagtcacgc ctattaccat ggtgatgcgg ttttggcagt 300
238 acatcaatgg gcgtggatag cggtttgact cacggggagt tccaagtctc caccgccattg 360
240 acgtcaatgg gagtttgttt tggcaccaaa atcaacggga ctttccaaaa tgcgtgaaca 420
242 actccgcccc attgacgcaa atgggcggta ggcgtgtacg gtgggaggtc tatataagca 480
244 gagctcgttt agtgaaccgt
247 <210> SEQ ID NO: 13
248 <211> LENGTH: 500
249 <212> TYPE: DNA
250 <213> ORGANISM: Artificial Sequence
252 <220> FEATURE:
253 <223> OTHER INFORMATION: Gfi-1 binding sequence
255 <400> SEQUENCE: 13
256 gccgcgctgg ctgaccgccc aacgaccccc cgggattgac gtcaataatg acgtatgttc 60
258 ccatagtaac gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa 120
260 ctgcccactt ggcagtacat caagtgtatc atatgccaa g tacgccccct attgacgtca 180
262 atgacggtaa atggcccggc tggcattatg cccagtaaat gaccttatgg gactttccta 240
264 cttggcagta catctacgta ttagtcacgc ctattaccat ggtgatgcgg ttttggcagt 300
266 acatcaatgg gcgtggatag cggtttgact cacggggagt tccaagtctc caccgccattg 360
268 acgtcaatgg gagtttgttt tggcaccaaa ctcaacggga ctttccaaaa tgcgtgaaca 420
270 actccgcccc attgacgcaa atgggcggta ggcgtgtacg gtgggaggtc tatataagca 480
272 gagctcgttt agtgaaccgt
275 <210> SEQ ID NO: 14
276 <211> LENGTH: 500
277 <212> TYPE: DNA
278 <213> ORGANISM: Artificial Sequence
280 <220> FEATURE:
281 <223> OTHER INFORMATION: Gfi-1 binding sequence
283 <400> SEQUENCE: 14
284 gccgcgctgg ctgaccgccc aacgaccccc cgggattgac gtcaataatg acgtatgttc 60
286 ccatagtaac gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa 120
288 ctgcccactt ggcagtacat caagtgtatc atatgccaa g tacgccccct attgacgtca 180

```

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/202,549D

TIME: 15:19:43

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\08212002\I202549D.raw

```

290 atgacggtaa atggcccgcc tggcattatg ccagtagat gaccttatgg gactttccta      240
292 cttggcagta catctacgta ttagtcacg ctattaccat ggtgatgcgg ttttggcagt      300
294 acatcaatgg gcgtggatag cgttllgact cacgggactt tccaagtctc caccocattg      360
296 acgtcaatgg gagtttgttt tggcaccaaa actaacggga ctttccaaaa tgtagtaaca      420
298 actccgcccc attgacgcaa atgggcggta ggcgtgtacg gtgggagggtc tatataagca      480
300 gagctcgttt agtgaaccgt                                         500
303 <210> SEQ ID NO: 15
304 <211> LENGTH: 12
305 <212> TYPE: DNA
306 <213> ORGANISM: Artificial Sequence
308 <220> FEATURE:
309 <223> OTHER INFORMATION: Gfi-1 binding sequence
311 <400> SEQUENCE: 15
312 caaatcaata ac                                             12
315 <210> SEQ ID NO: 16
316 <211> LENGTH: 12
317 <212> TYPE: DNA
318 <213> ORGANISM: Artificial Sequence
320 <220> FEATURE:
321 <223> OTHER INFORMATION: Gfi-1 binding sequence
323 <400> SEQUENCE: 16
324 taaatctgtg tg                                             12
327 <210> SEQ ID NO: 17
328 <211> LENGTH: 12
329 <212> TYPE: DNA
330 <213> ORGANISM: Artificial Sequence
333 <220> FEATURE:
334 <223> OTHER INFORMATION: Gfi-1 binding sequence
336 <400> SEQUENCE: 17
337 gaaatcagtt aa                                             12
340 <210> SEQ ID NO: 18
341 <211> LENGTH: 12
342 <212> TYPE: DNA
343 <213> ORGANISM: Artificial Sequence
346 <220> FEATURE:
347 <223> OTHER INFORMATION: Gfi-1 binding sequence
349 <400> SEQUENCE: 18
350 gaaatcagac ca                                             12
353 <210> SEQ ID NO: 19
354 <211> LENGTH: 12
355 <212> TYPE: DNA
356 <213> ORGANISM: Artificial Sequence
359 <220> FEATURE:
360 <223> OTHER INFORMATION: Gfi-1 binding sequence
362 <400> SEQUENCE: 19
363 gaaatcagtt aa                                             12
366 <210> SEQ ID NO: 20
367 <211> LENGTH: 12
368 <212> TYPE: DNA

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/202,549D

DATE: 08/21/2002
TIME: 15:19:45

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF4\08212002\I202549D.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 1,9
Seq#:2; N Pos. 9
Seq#:3; N Pos. 1,3,4,5,6,9
Seq#:4; N Pos. 2,7,15

VERIFICATION SUMMARY

DATE: 08/21/2002

PATENT APPLICATION: US/09/202,549D

TIME: 15:19:45

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\08212002\I202549D.raw

L:37 M:283 W: Missing Blank Line separator, <220> field identifier
L:39 M:283 W: Missing Blank Line separator, <220> field identifier
L:50 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:60 M:283 W: Missing Blank Line separator, <220> field identifier
L:66 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:76 M:283 W: Missing Blank Line separator, <220> field identifier
L:105 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:115 M:283 W: Missing Blank Line separator, <220> field identifier
L:132 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:562 M:283 W: Missing Blank Line separator, <220> field identifier